

FIG. 1

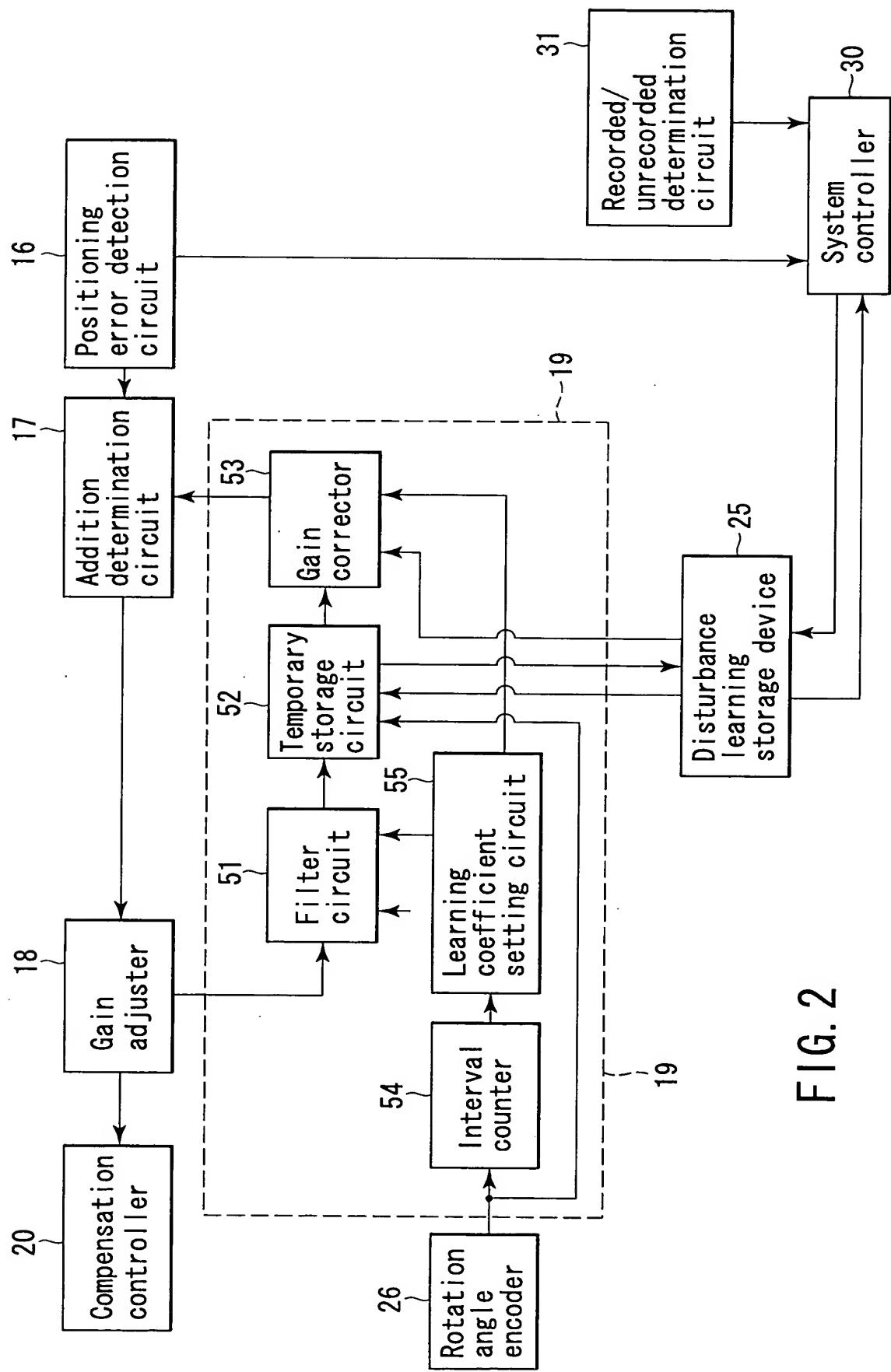
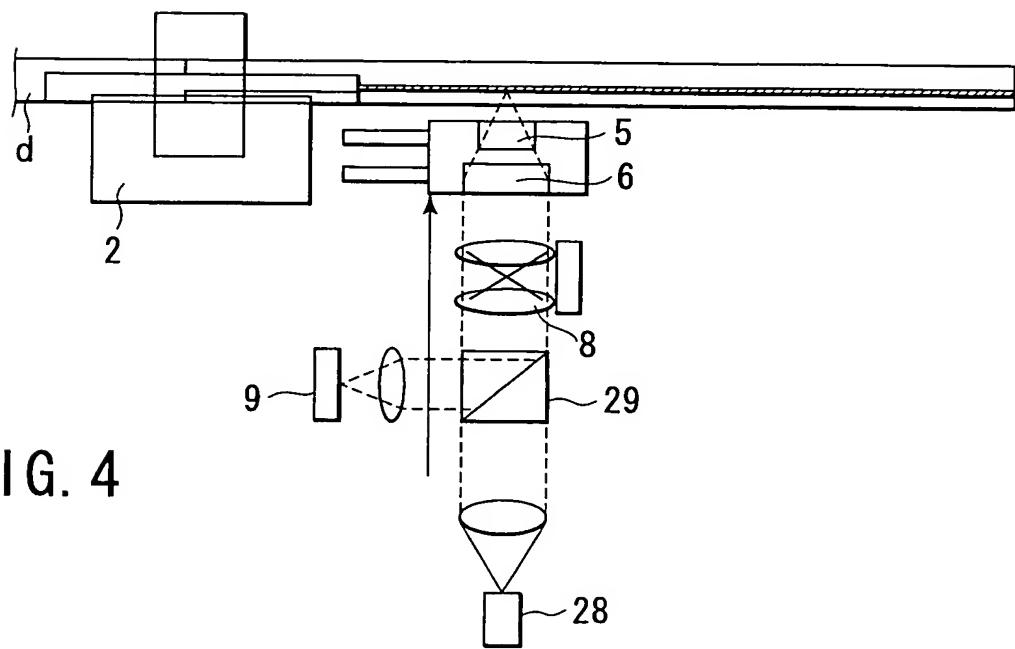
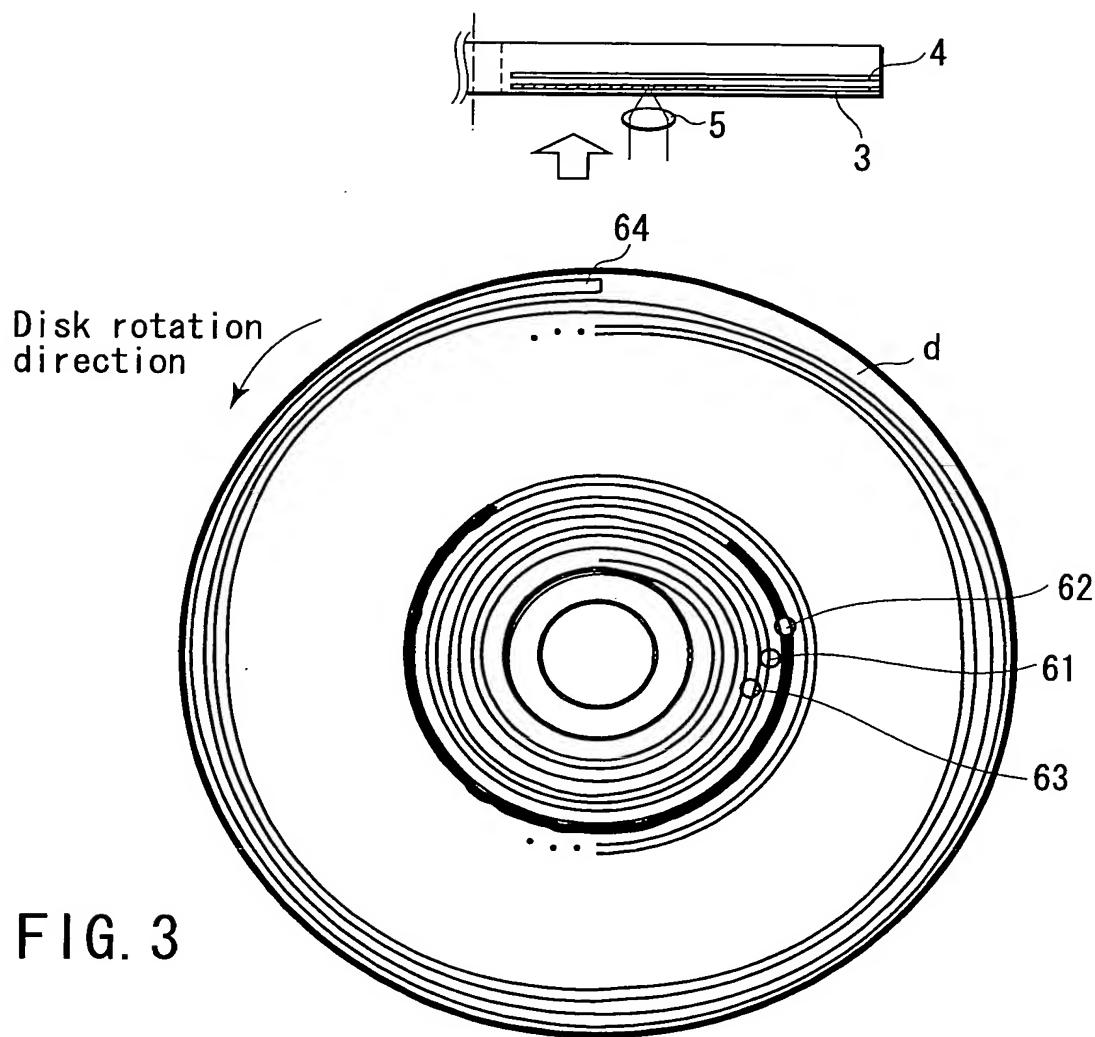


FIG. 2



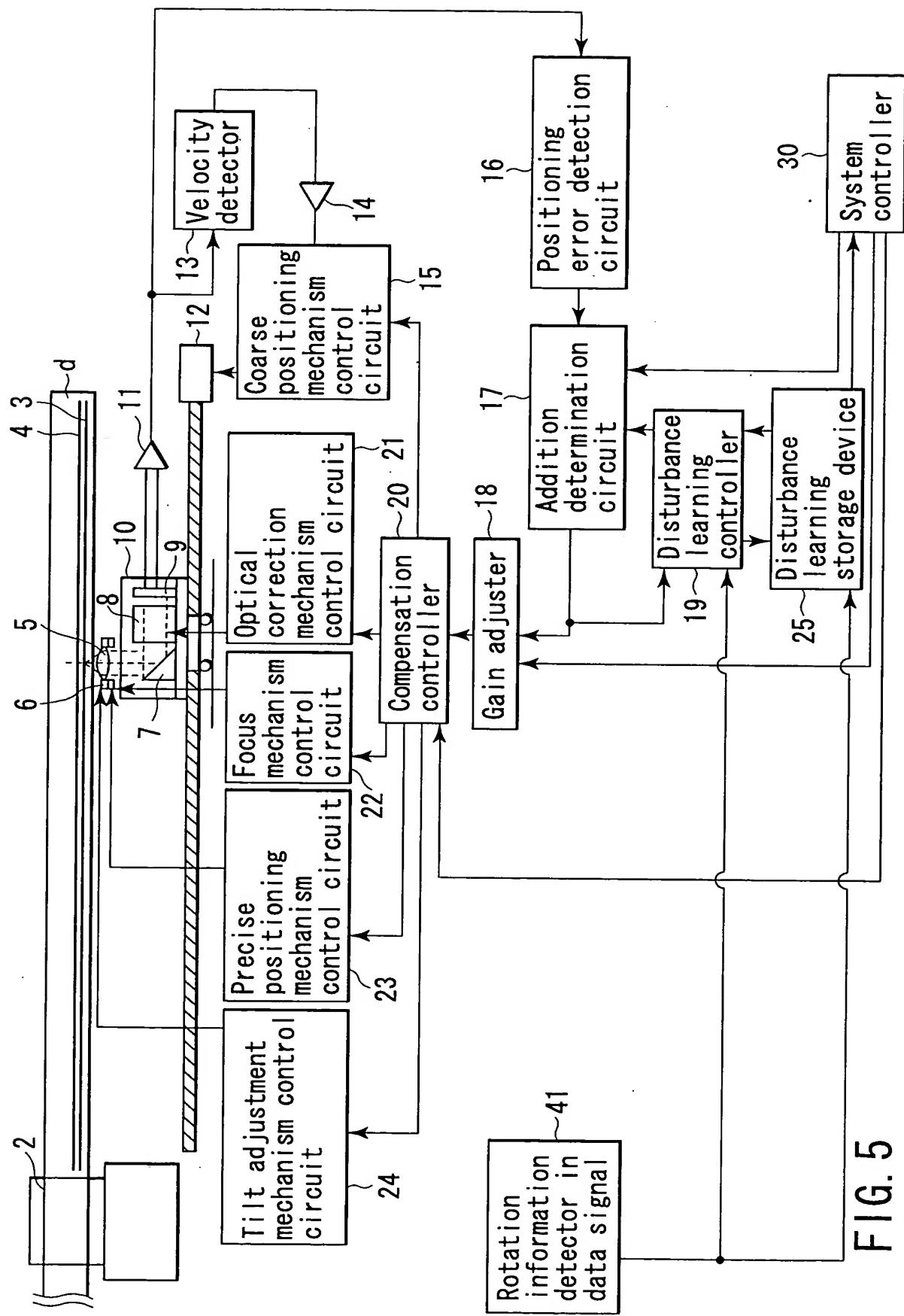


FIG. 5

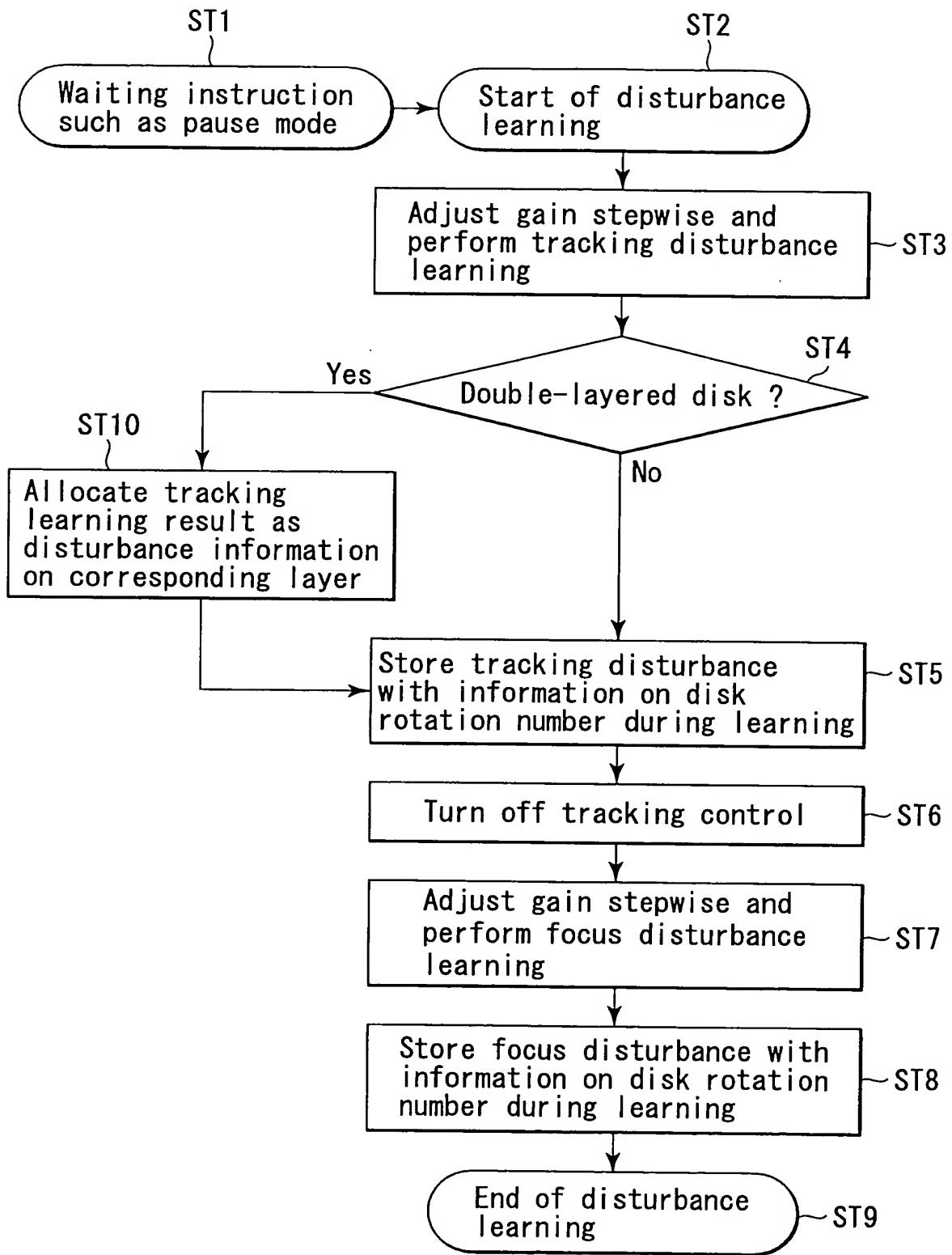
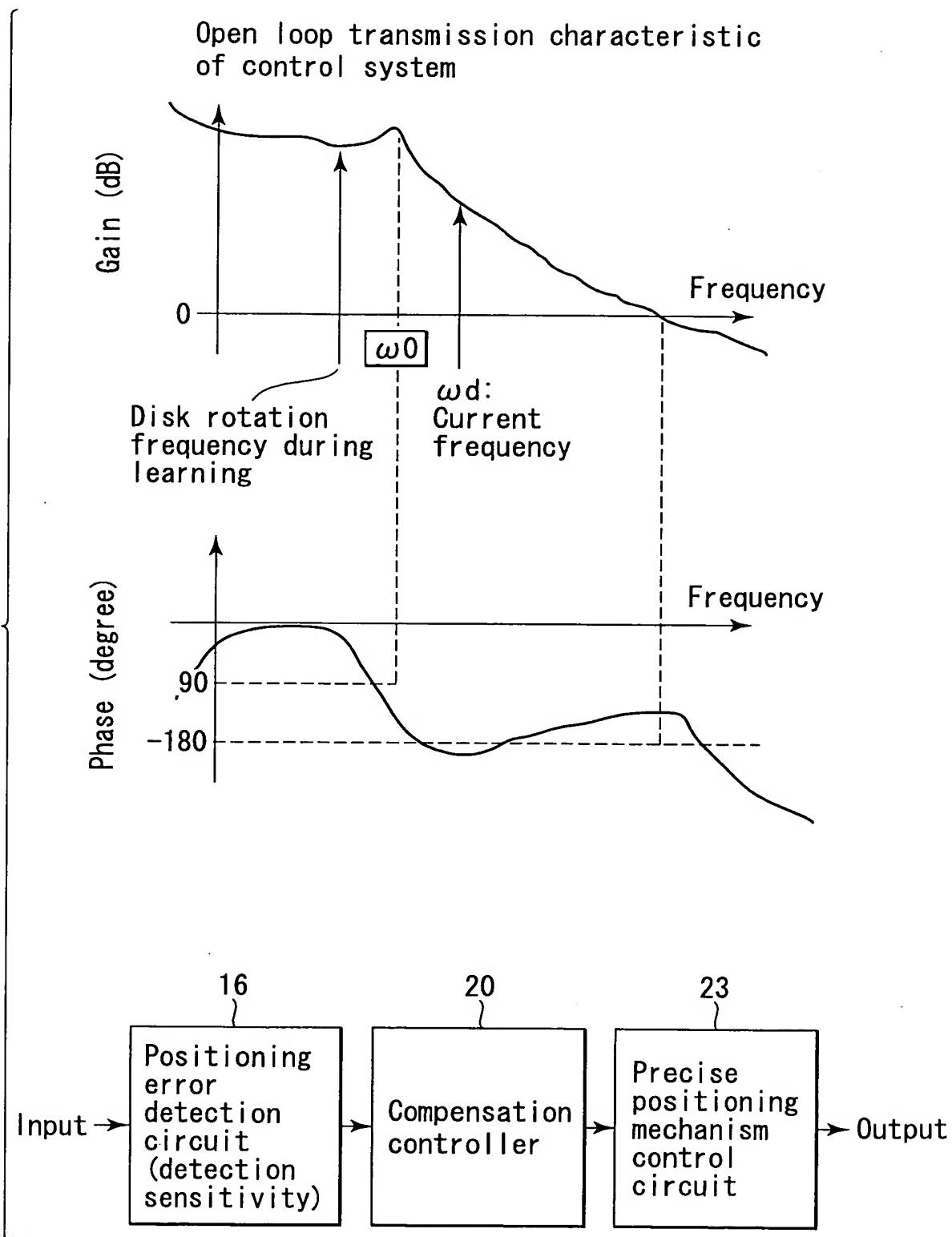


FIG. 6



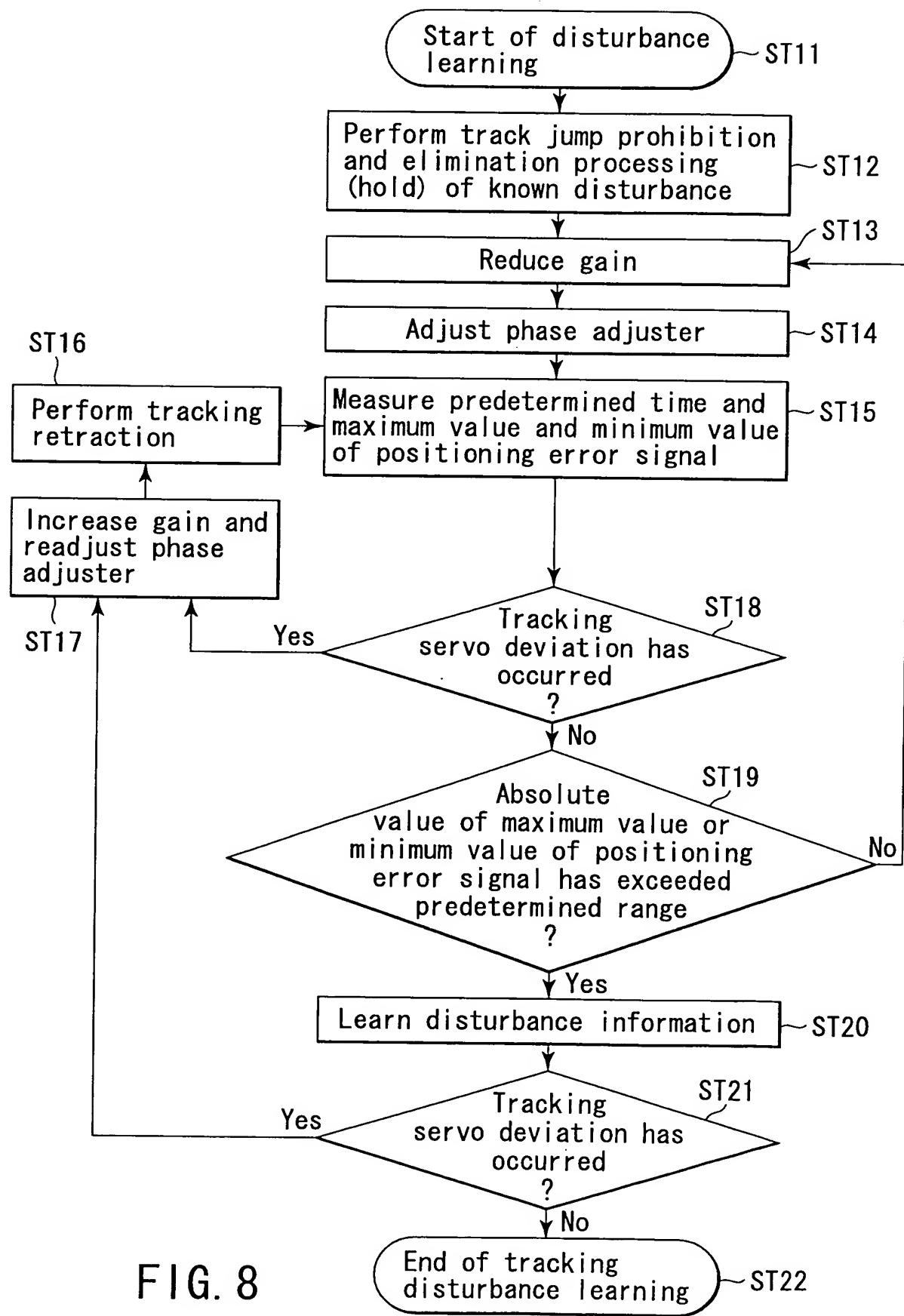


FIG. 8

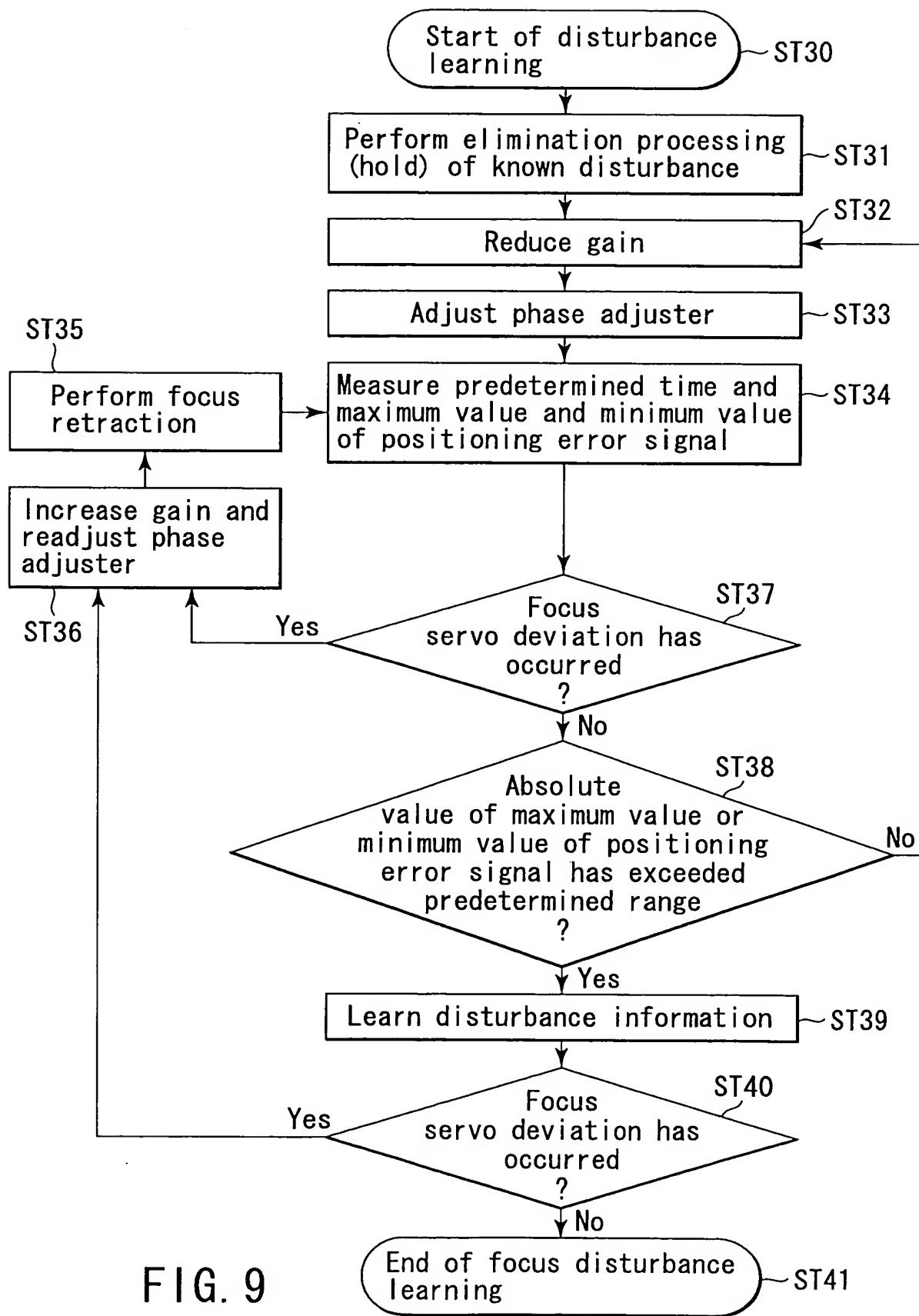


FIG. 9

Open loop transmission characteristic  
of control system

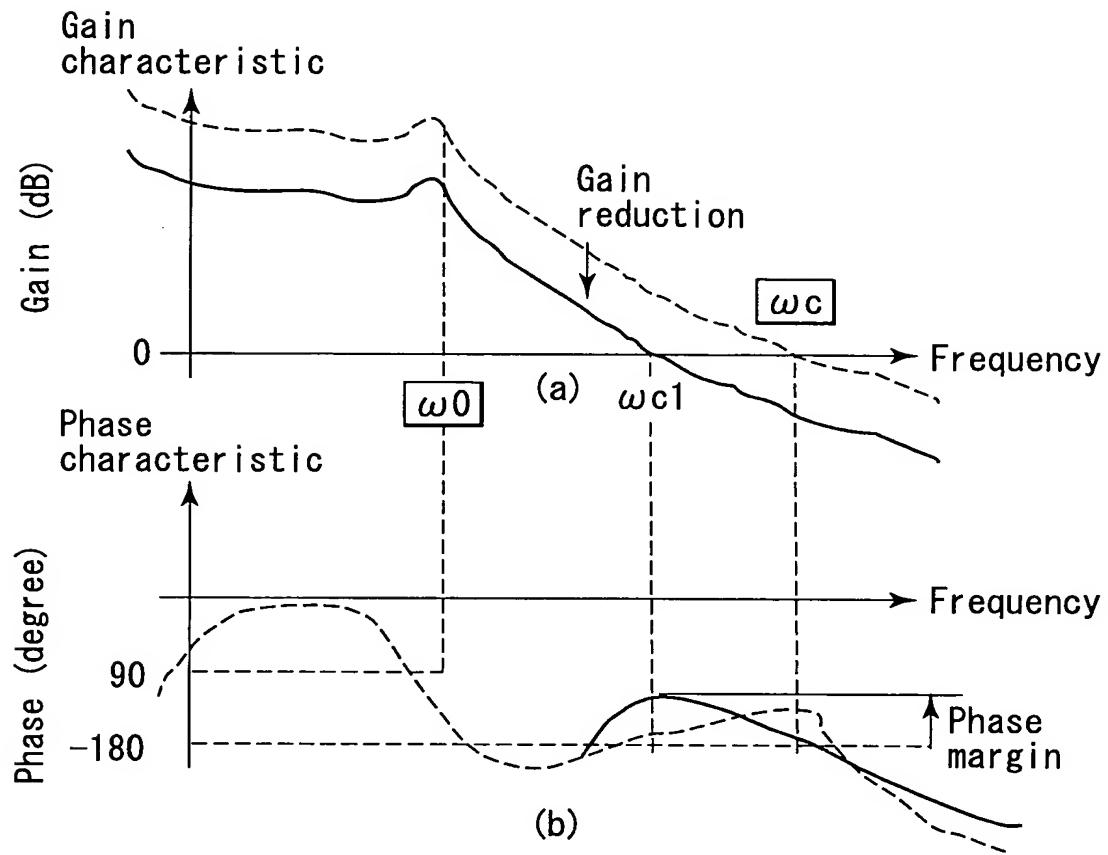


FIG. 10

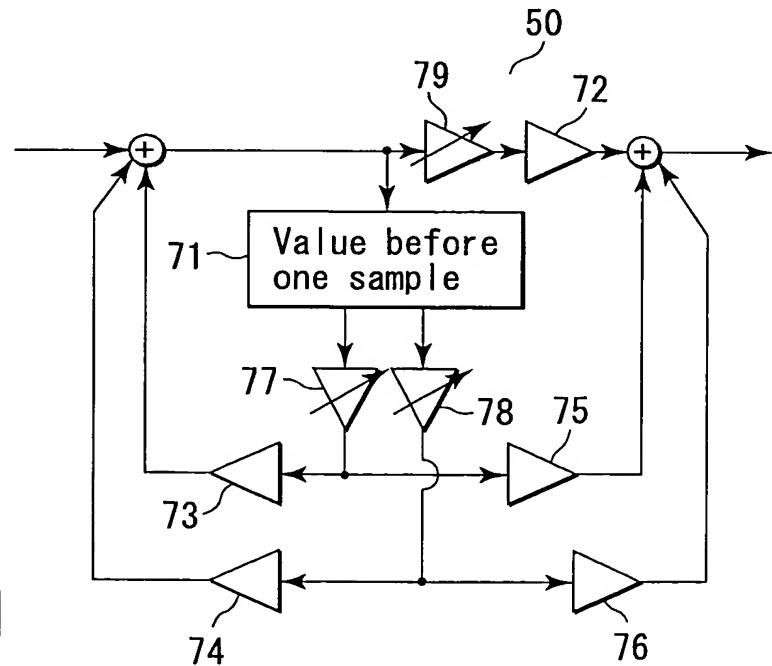
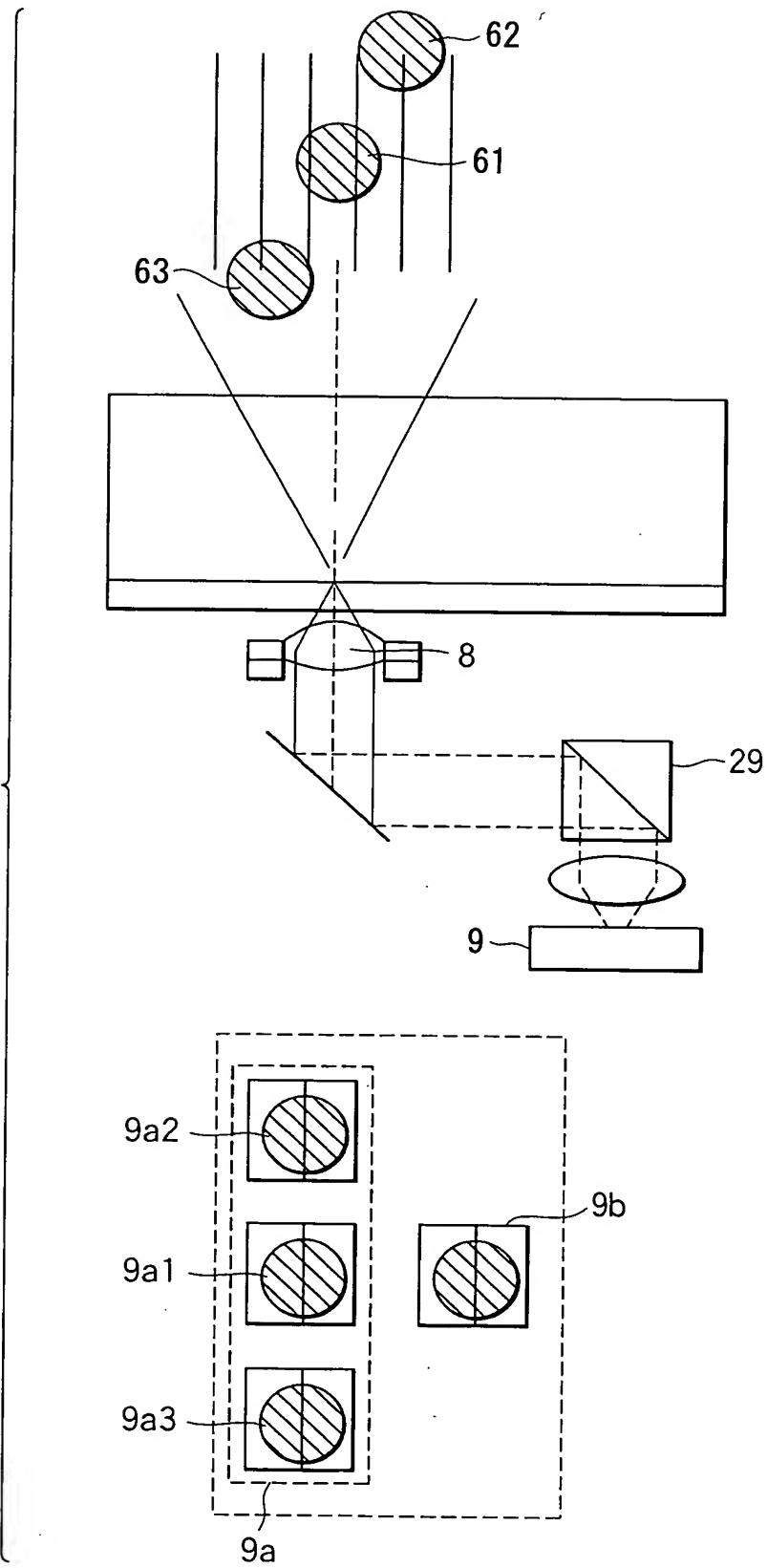
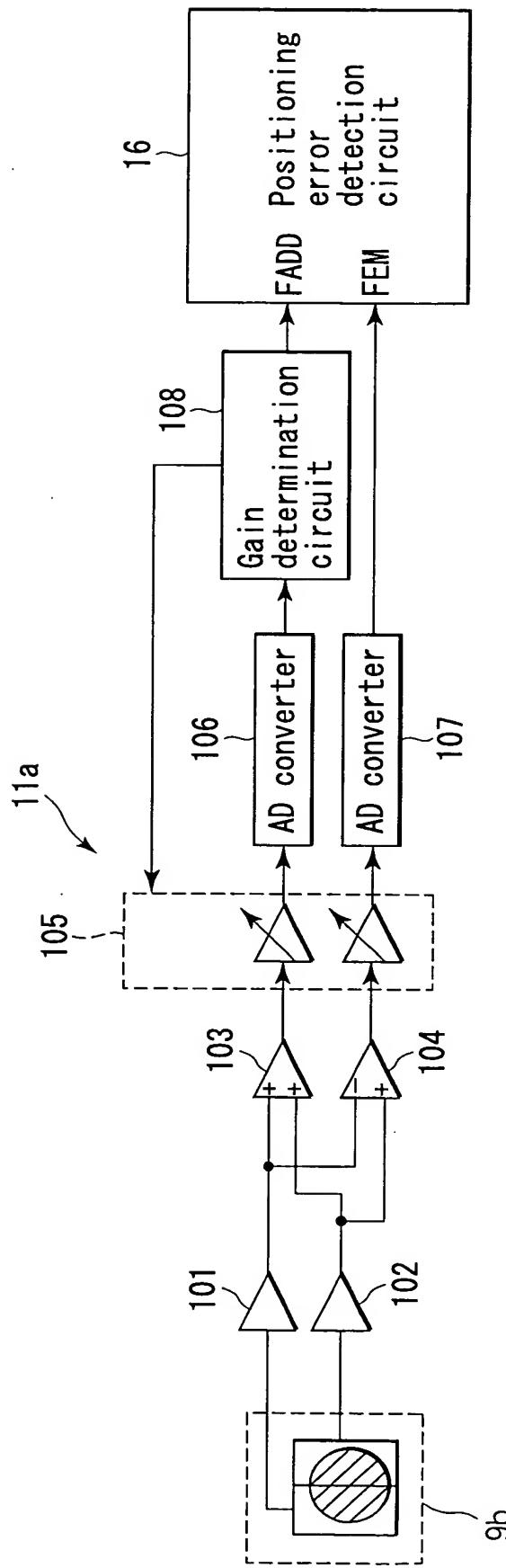


FIG. 11

FIG. 12





Normal : FES (focus positioning error signal) = FEM

FIG. 13

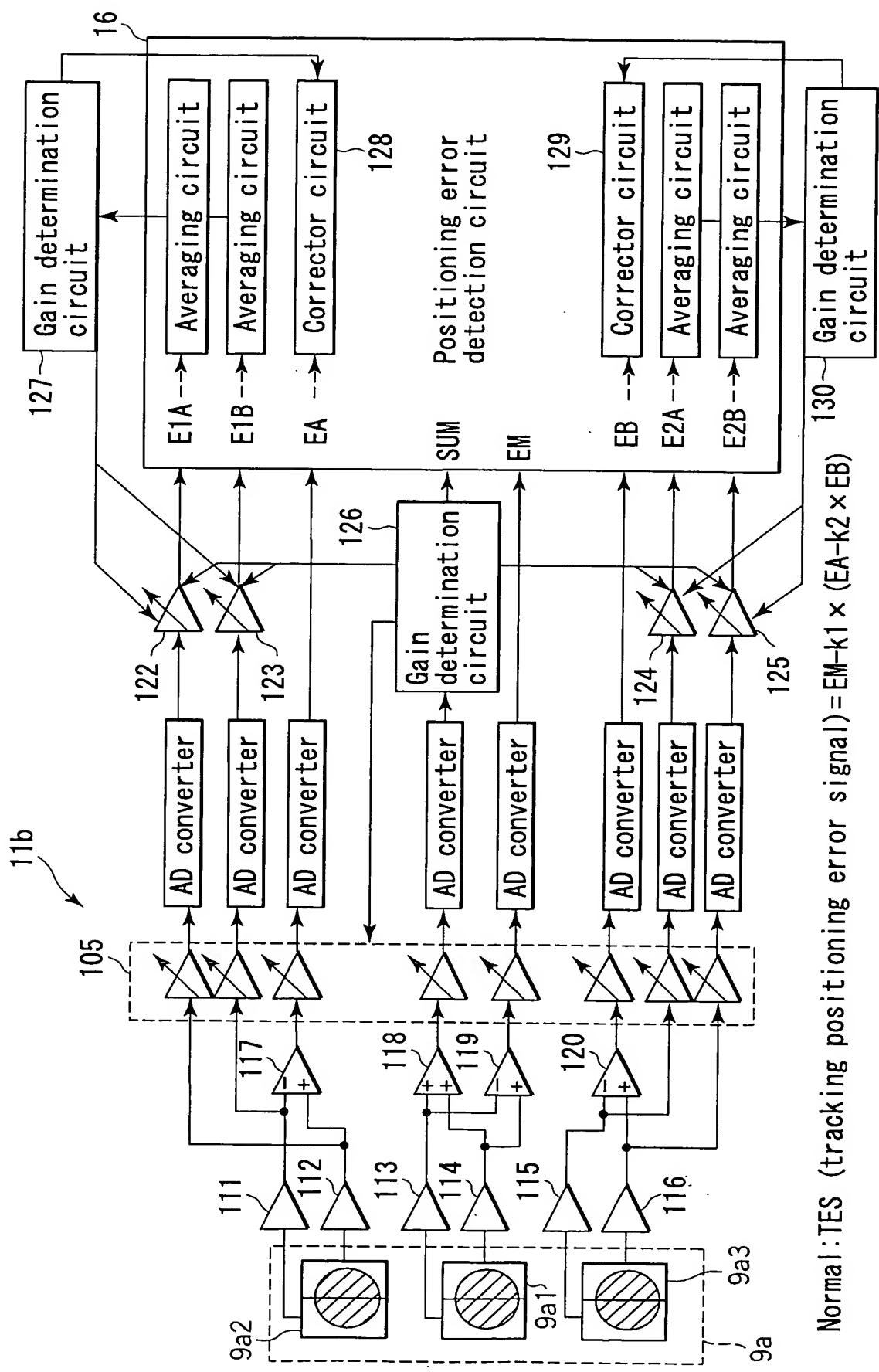


FIG. 14

In the case where gain has increased

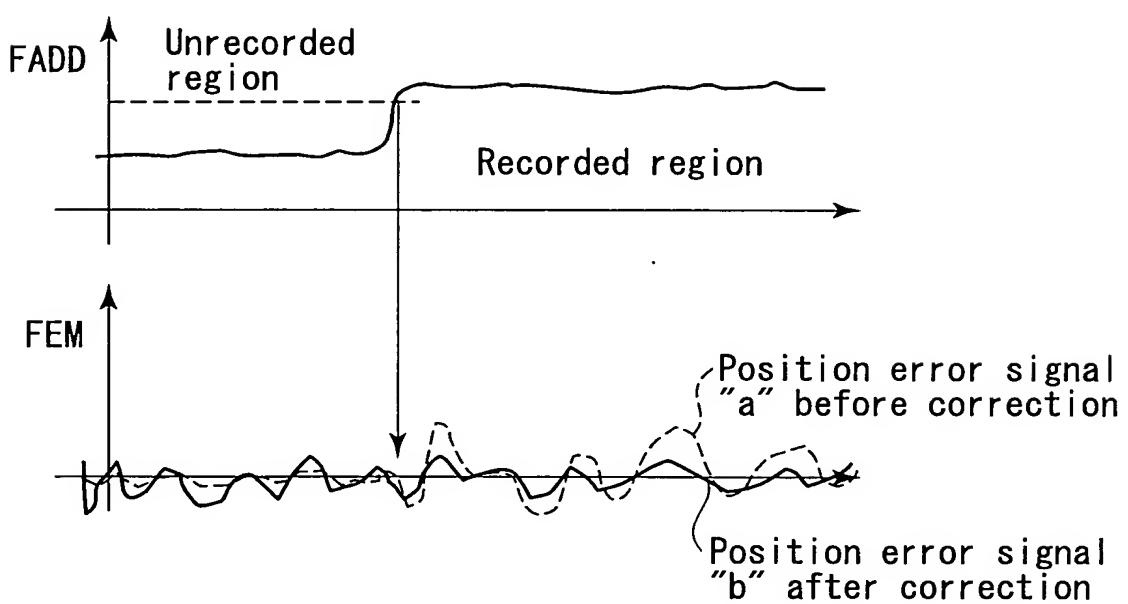


FIG. 15

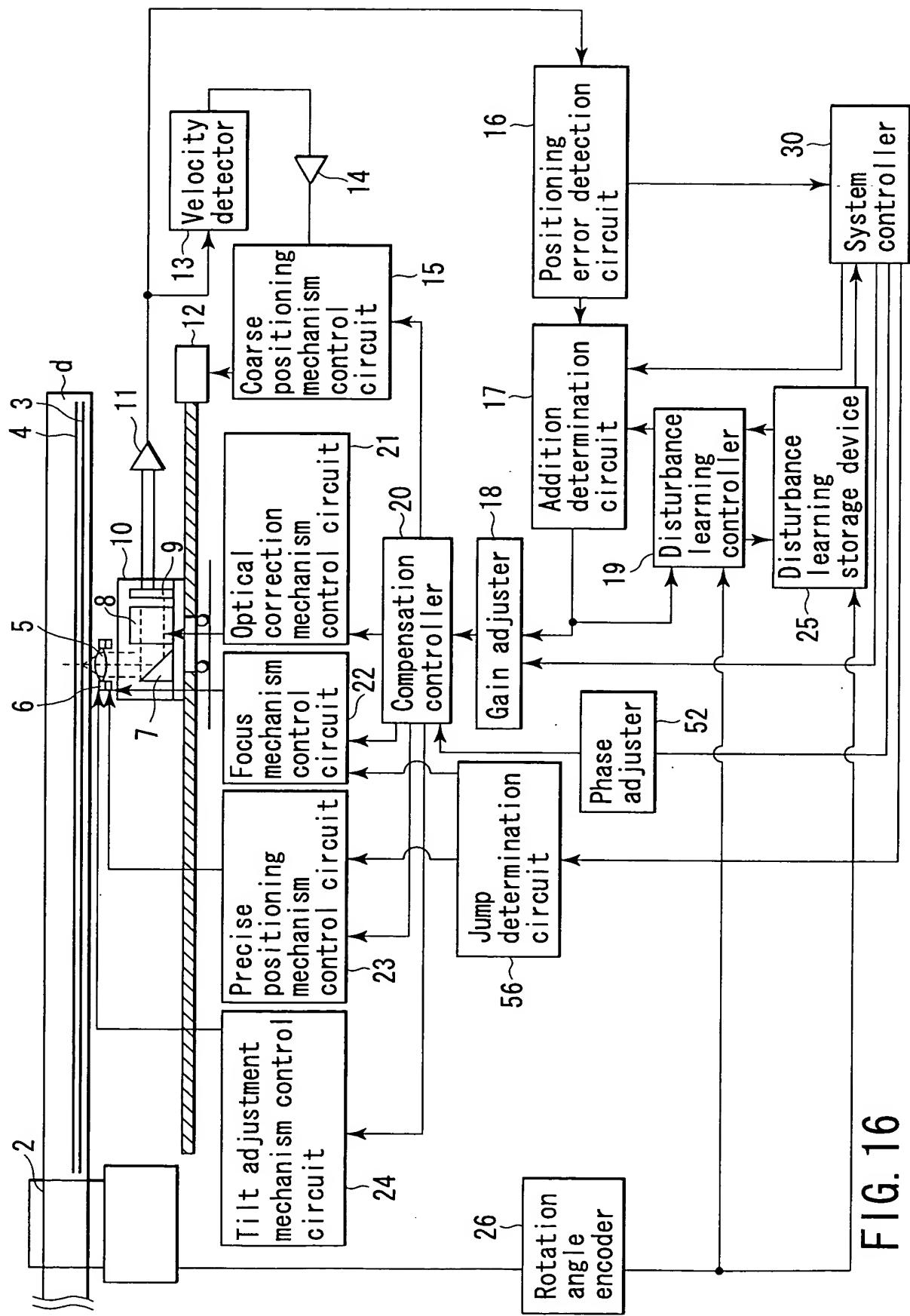


FIG. 16

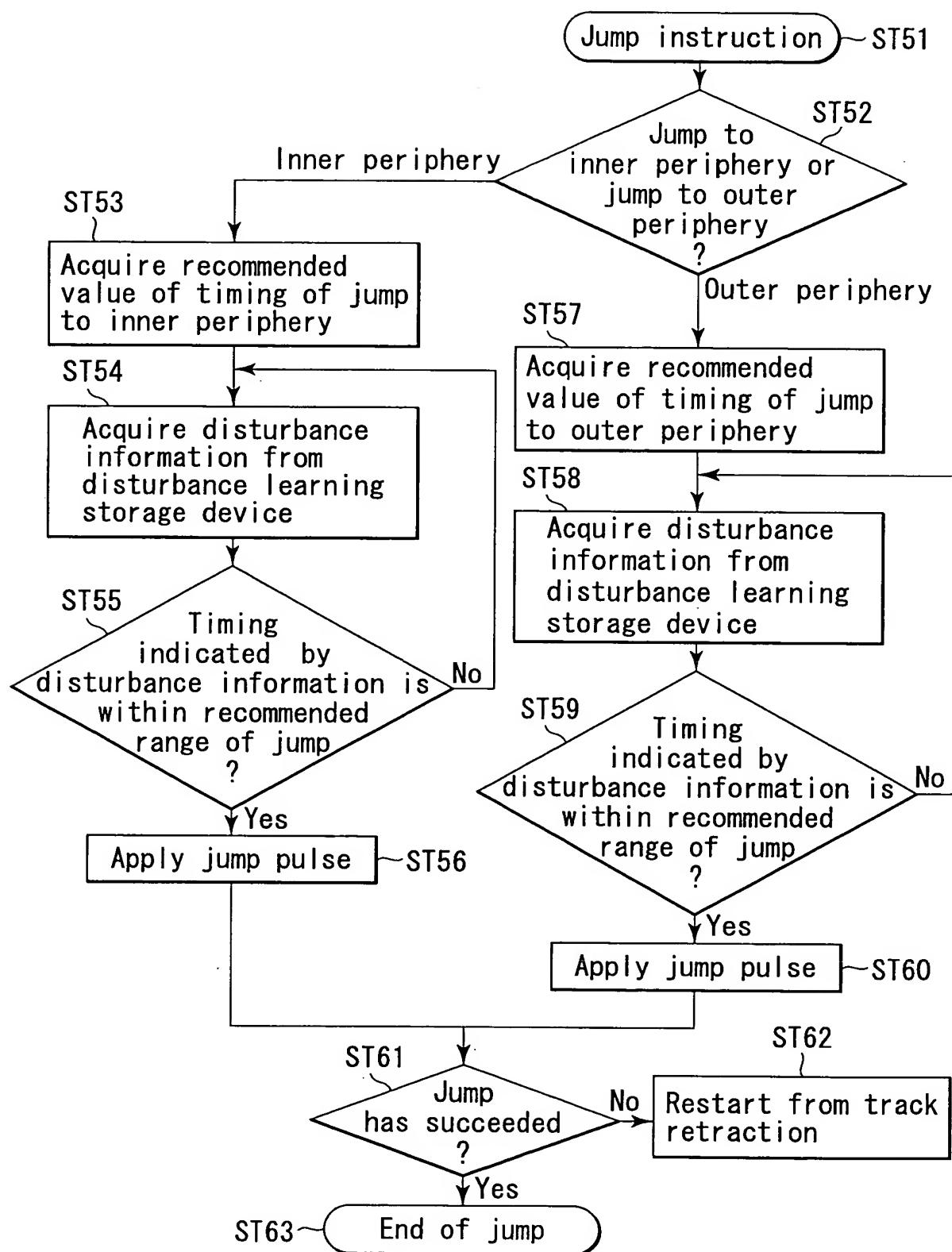
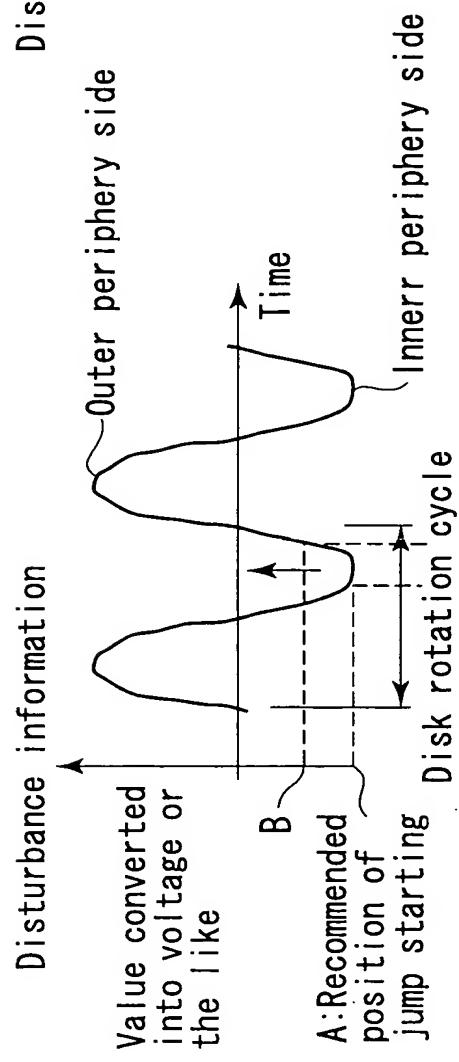


FIG. 17

Learned disturbance information  
(in the case of eccentricity)



Disturbance information

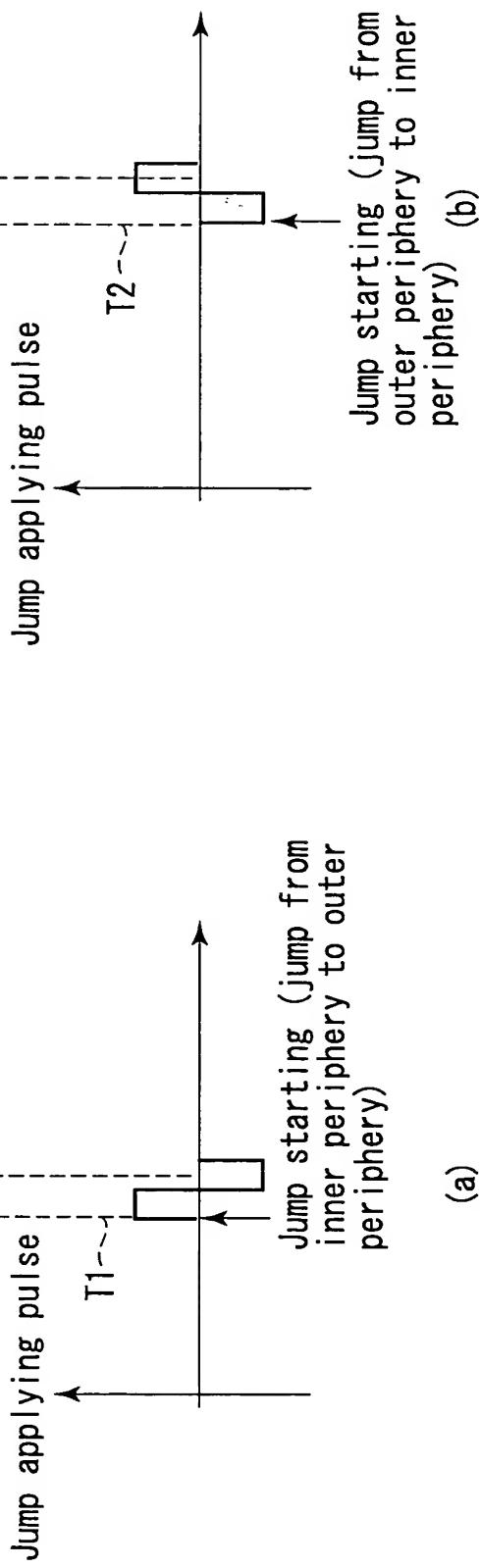


FIG. 18

Learned disturbance information  
(in the case of side runout)

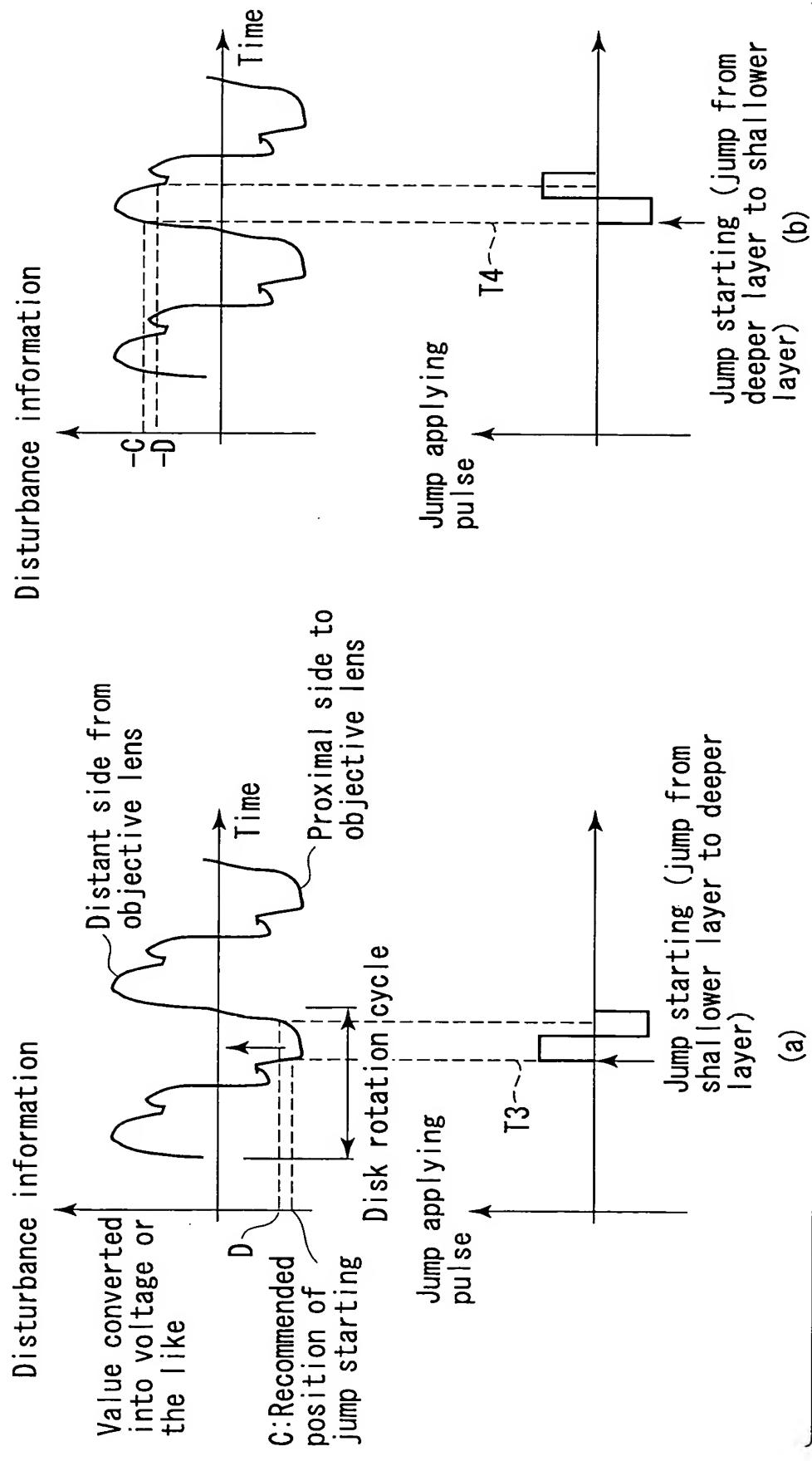


FIG. 19

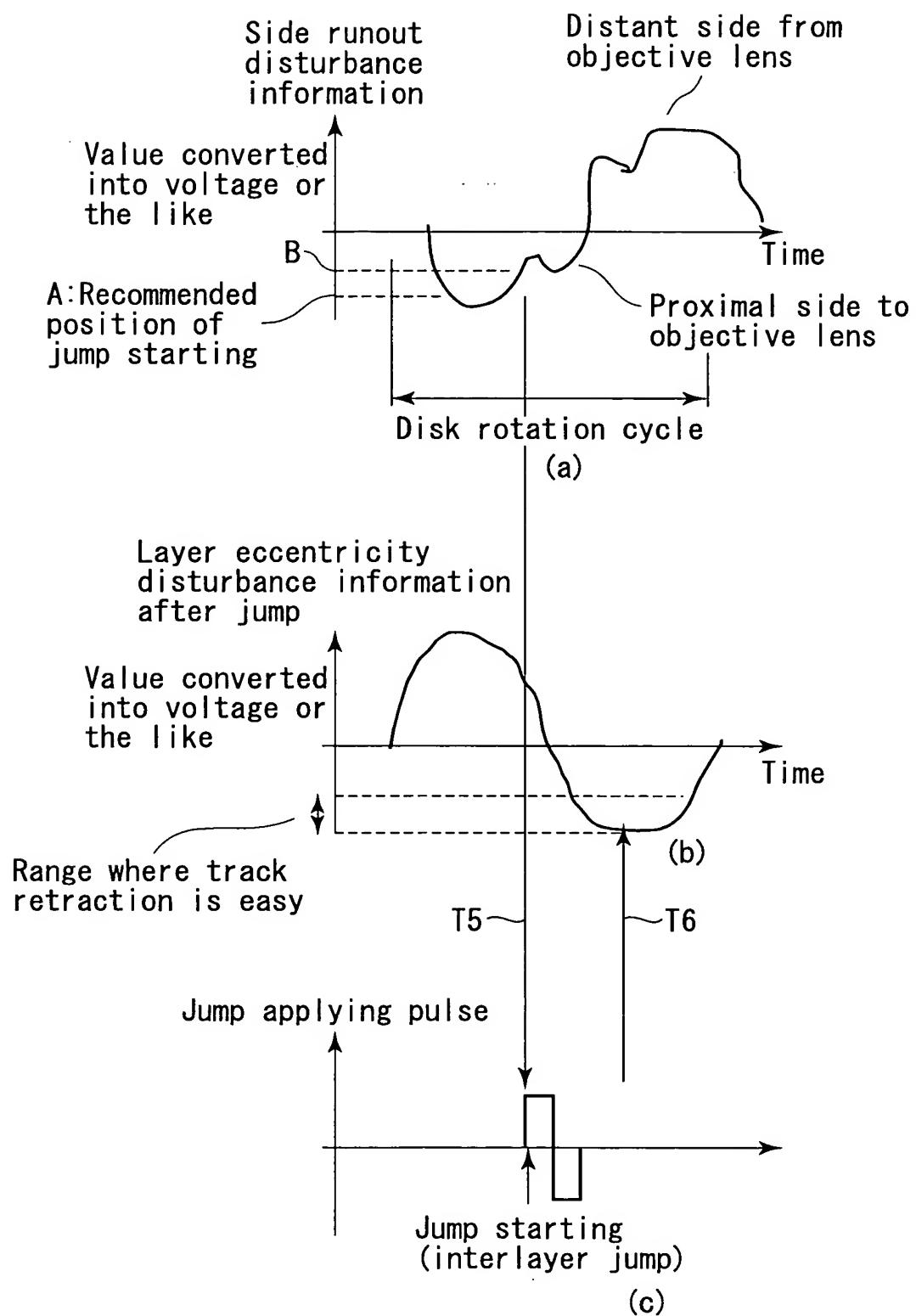


FIG. 20

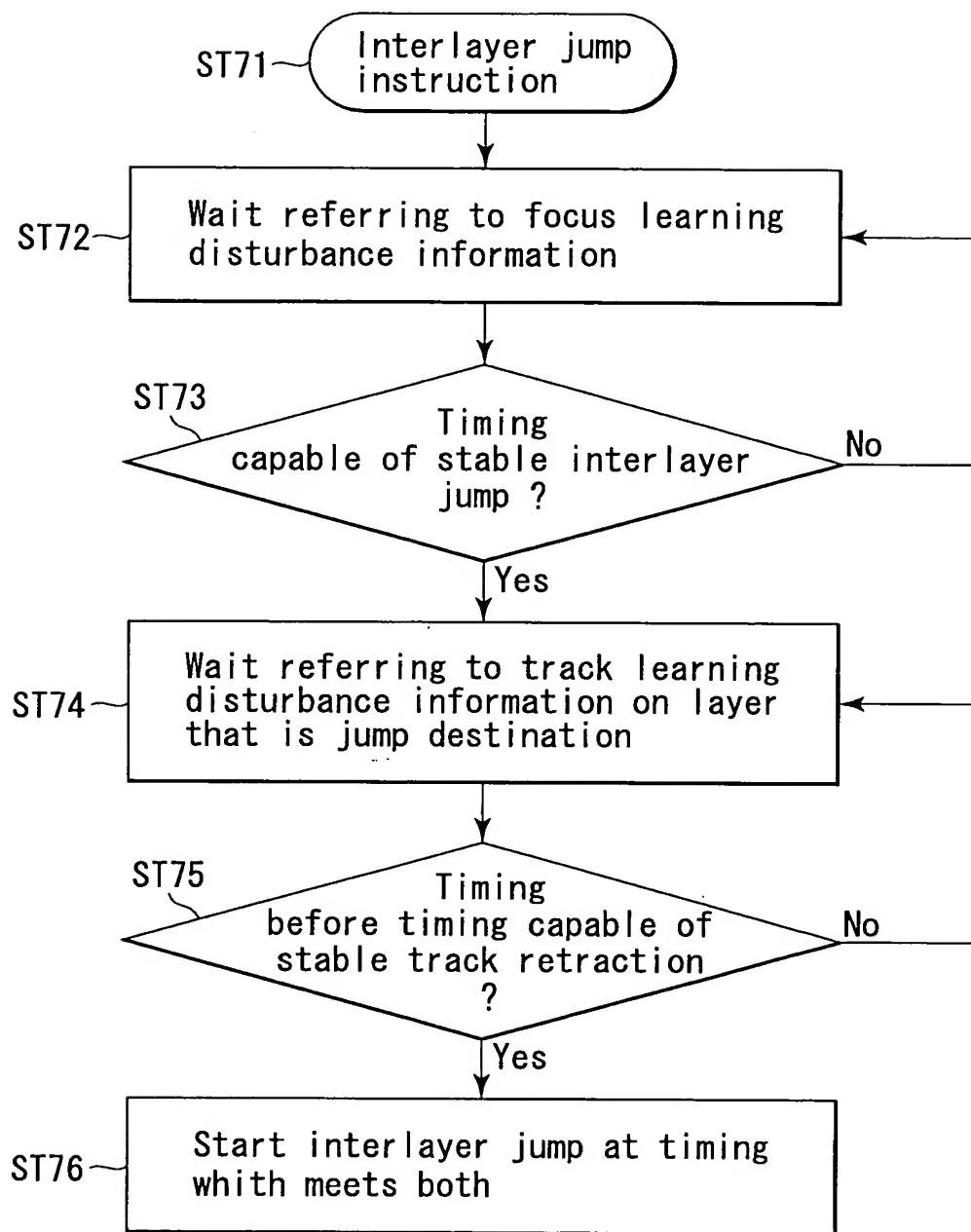


FIG. 21

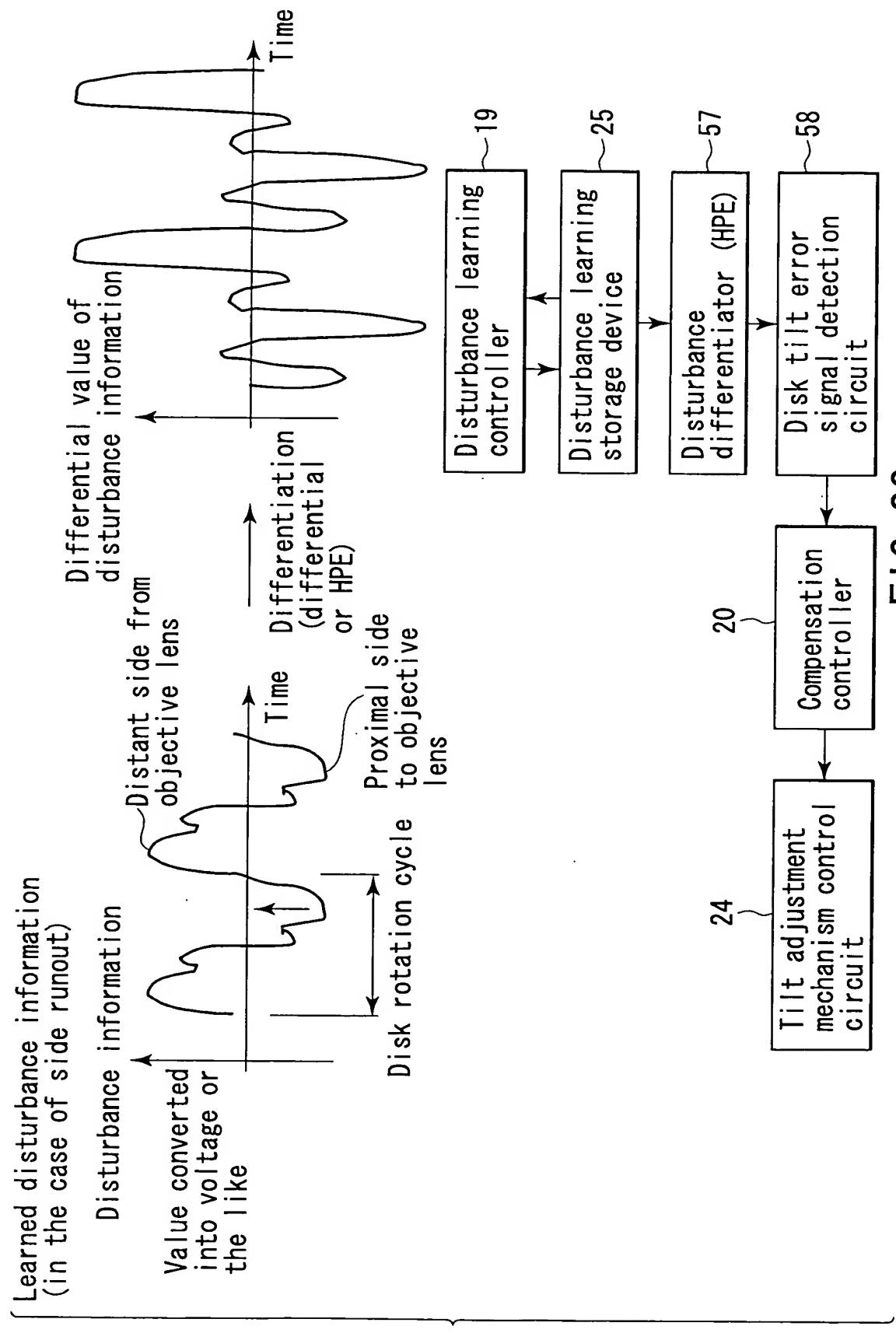


FIG. 22

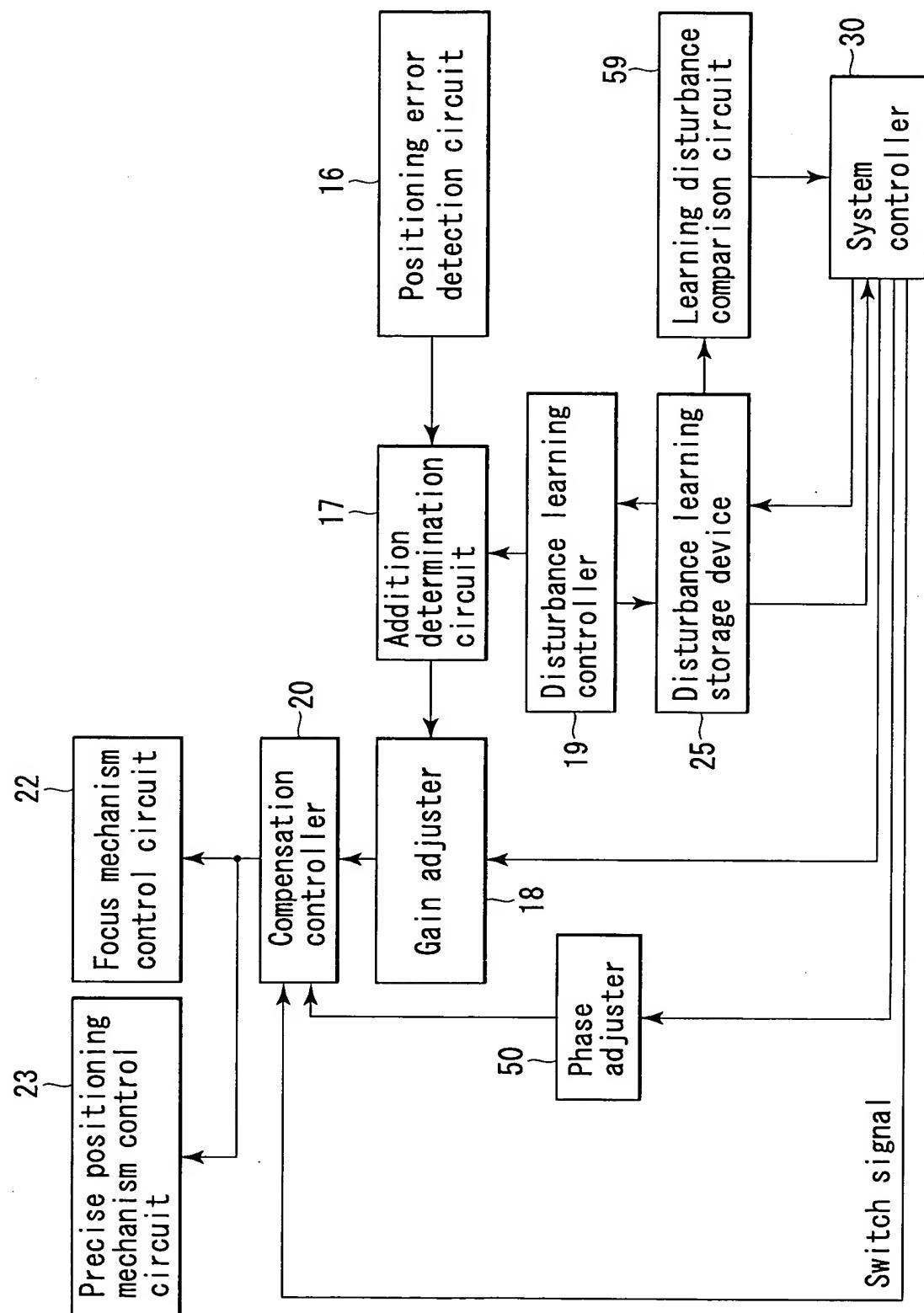


FIG. 23

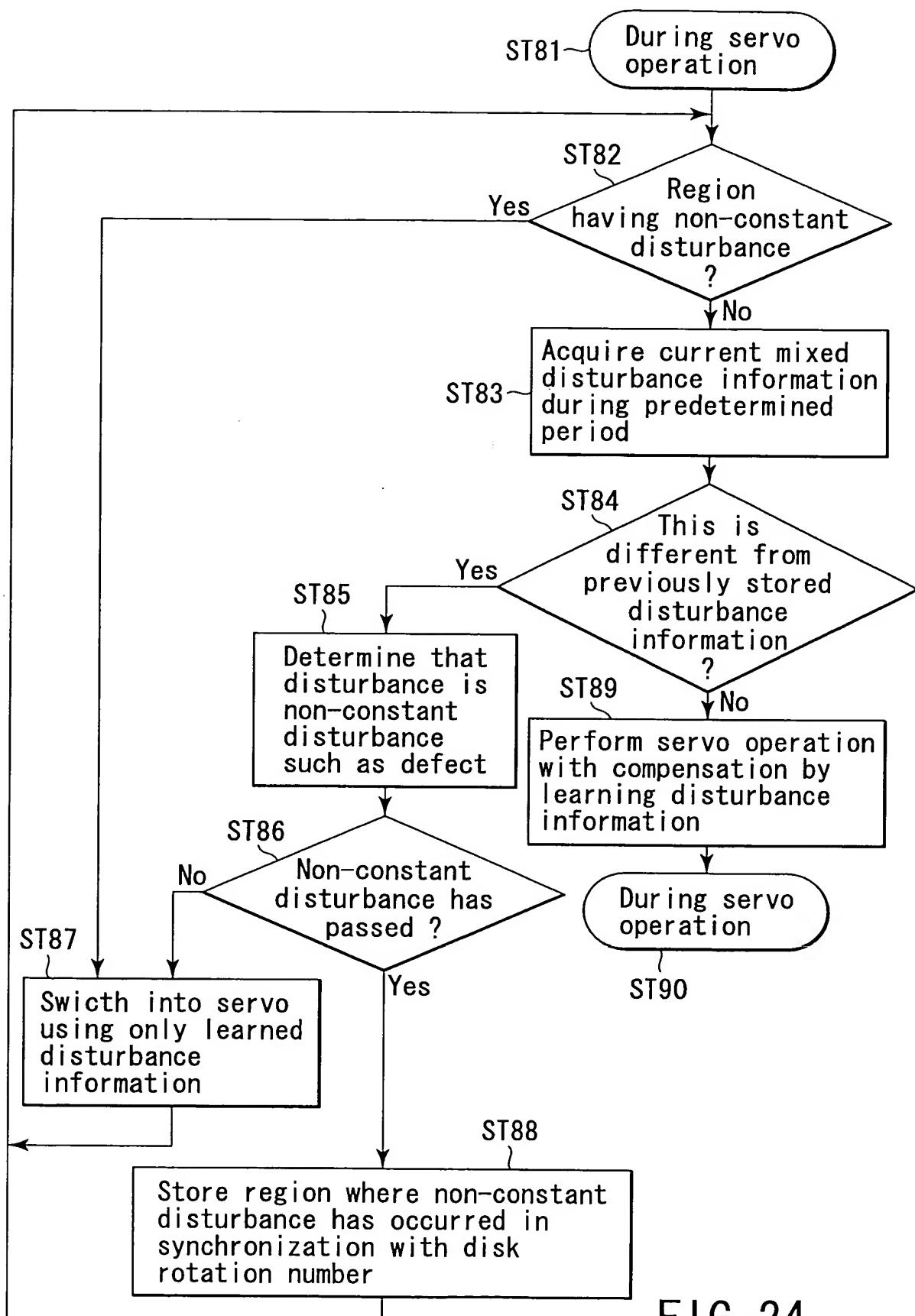


FIG. 24

Open loop transmission characteristic  
of control system

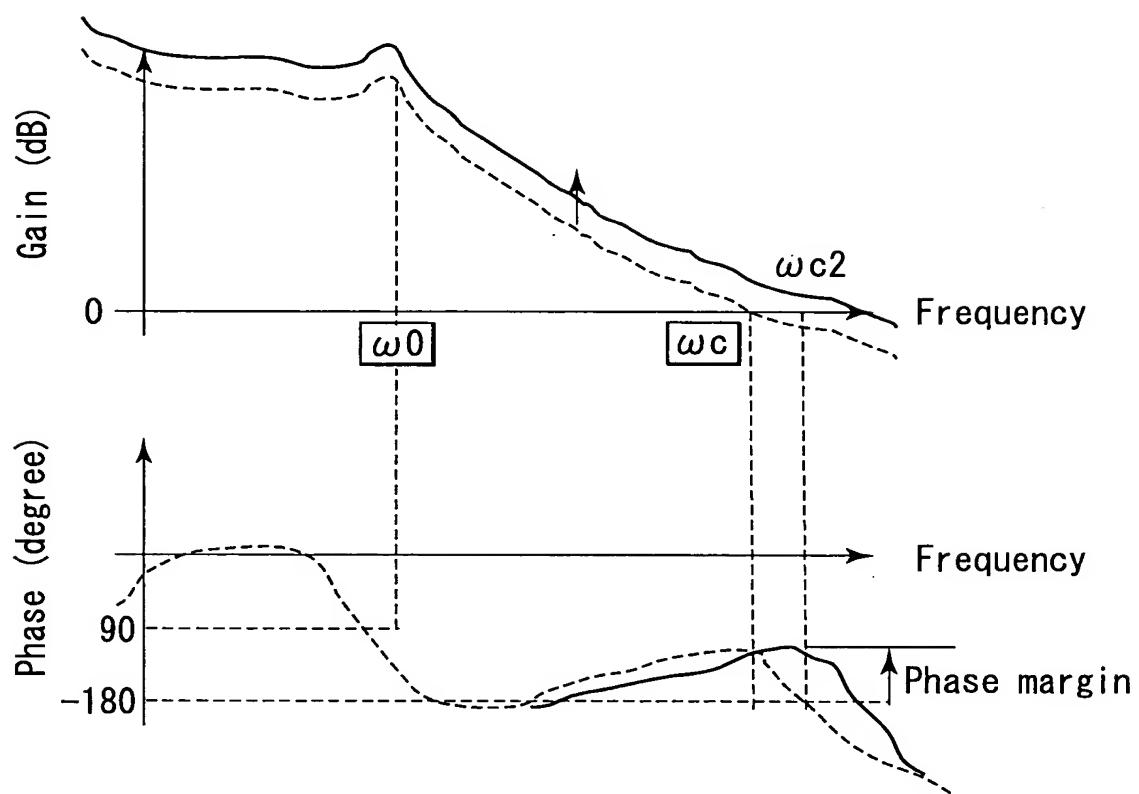


FIG. 25